

IN THE CLAIMS:

Please amend claims 1, 11, 21, 31, 41, 51, 61 and 71 as follows.

1. (Currently Amended) A display device comprising:

a pixel region with a plurality of pixel TFTs arranged in matrix; and

at least one source driver and at least one gate driver for driving said pixel region,

wherein of m bit digital video data ~~inputted from the external~~, upper n bit data and lower (m - n) bit data are used as gradation voltage information and time gradation information, respectively, where m and n are both positive integers equal to or larger than 2 and satisfy $m > n$.

2. (Original) A device according to claim 1, wherein said m is 8 and said n is 2.

3. (Original) A device according to claim 1, wherein said m is 12 and said n is 4.

4. (Original) A device according to claim 1, wherein said display device is a liquid crystal display device.

5. (Original) A device according to claim 4, wherein a thresholdless anti-ferroelectric mixed liquid crystal is used for said liquid crystal display device.

6. (Original) A device according to claim 1, wherein said display device is an electroluminescence display device.

7. (Original) A rear projector provided with three display devices as claimed in claim 1.

8. (Original) A front projector provided with three display devices as claimed in claim 1.

9. (Original) A single panel type rear projector provided with one display device as claimed in claim 1.

10. (Original) A goggle type display provided with two display devices as claimed in claim 1.

11. (Currently Amended) A display device comprising:

a pixel region with a plurality of pixel TFTs arranged in matrix;

at least one source driver and at least one gate driver for driving said pixel region; and
a circuit for converting m bit digital video data ~~inputted from the external~~ into n bit digital video data for gradation voltage, and for supplying said source driver with said n bit digital video data (m and n are both positive integers equal to or larger than 2, $m > n$),

wherein one frame of image consists of 2^{m-n} sub-frames to perform time gradation display.

12. (Original) A device according to claim 11, wherein said m is 8 and said n is 2.
13. (Original) A device according to claim 11, wherein said m is 12 and said n is 4.
14. (Original) A device according to claim 11, wherein said display device is a liquid crystal display device.
15. (Original) A device according to claim 14, wherein a thresholdless anti-ferroelectric mixed liquid crystal is used for said liquid crystal display device.
16. (Original) A device according to claim 11, wherein said display device is an electroluminescence display device.
17. (Original) A rear projector provided with three display devices as claimed in claim 11.
18. (Original) A front projector provided with three display devices as claimed in claim 11.
19. (Original) A single panel type rear projector provided with one display device as claimed in claim 11.
20. (Original) A goggle type display provided with two display devices as claimed in claim 11.
21. (Currently Amended) A display device comprising:

a pixel region with a plurality of pixel TFTs arranged in matrix;
at least one source driver and at least one gate driver for driving said pixel region; and
a circuit for converting m bit digital video data ~~inputted from the external~~ into n bit digital video data for gradation voltage, and for supplying said source driver with said n bit digital video data

(m and n are both positive integers equal to or larger than 2, $m > n$),

wherein one frame of image consists of 2^{m-n} sub-frames to perform time gradation display, thereby obtaining $(2^m - (2^{m-n} - 1))$ patterns of gradation display.

22. (Original) A device according to claim 21, wherein said m is 8 and said n is 2.

23. (Original) A device according to claim 21, wherein said m is 12 and said n is 4.

24. (Original) A device according to claim 21, wherein said display device is a liquid crystal display device.

25. (Original) A device according to claim 24, wherein a thresholdless anti-ferroelectric mixed liquid crystal is used for said liquid crystal display device.

26. (Original) A device according to claim 21, wherein said display device is an electroluminescence display device.

27. (Original) A rear projector provided with three display devices as claimed in claim 21.

28. (Original) A front projector provided with three display devices as claimed in claim 21.

29. (Original) A single panel type rear projector provided with one display device as claimed in claim 21.

30. (Original) A goggle type display provided with two display devices as claimed in claim 21.

31. (Currently Amended) A display device comprising

a pixel region with a plurality of pixel TFTs arranged in matrix and

at least one source driver and at least one gate driver for driving said pixel region, wherein of m bit digital video data ~~inputted from the external~~, upper n bit data and lower (m - n) bit data are used as gradation voltage information and time gradation information, respectively (m and n are both positive integers equal to or larger than 2, $m > n$), and

wherein said source driver has a D/A converter circuit for converting said n bit digital video

data into analog gradation voltage.

32. (Original) A device according to claim 31, wherein said m is 8 and said n is 2.

33. (Original) A device according to claim 31, wherein said m is 12 and said n is 4.

34. (Original) A device according to claim 31, wherein said display device is a liquid crystal display device.

35. (Original) A device according to claim 34, wherein a thresholdless anti-ferroelectric mixed liquid crystal is used for said liquid crystal display device.

36. (Original) A device according to claim 31, wherein said display device is an electroluminescence display device.

37. (Original) A rear projector provided with three display devices as claimed in claim 31.

38. (Original) A front projector provided with three display devices as claimed in claim 31.

39. (Original) A single panel type rear projector provided with one display device as claimed in claim 31.

40. (Original) A goggle type display provided with two display devices as claimed in claim 31.

41. (Currently Amended) A display device comprising:

a pixel region with a plurality of pixel TFTs arranged in matrix;

at least one source driver and at least one gate driver for driving said pixel region; and

a circuit for converting m bit digital video data ~~inputted from the external~~ into n bit digital video data for gradation voltage, and for supplying said source driver with said n bit digital video data (m and n are both positive integers equal to or larger than 2, $m > n$),

wherein said source driver has a D/A converter circuit for converting said n bit digital video data into analog gradation voltage, and

wherein one frame of image consists of 2^{m-n} sub-frames to perform time gradation display.

42. (Original) A device according to claim 41, wherein said m is 8 and said n is 2.
43. (Original) A device according to claim 41, wherein said m is 12 and said n is 4.
44. (Original) A device according to claim 41, wherein said display device is a liquid crystal display device.
45. (Original) A device according to claim 44, wherein a thresholdless anti-ferroelectric mixed liquid crystal is used for said liquid crystal display device.
46. (Original) A device according to claim 41, wherein said display device is an electroluminescence display device.
47. (Original) A rear projector provided with three display devices as claimed in claim 41.
48. (Original) A front projector provided with three display devices as claimed in claim 41.
49. (Original) A single panel type rear projector provided with one display device as claimed in claim 41.
50. (Original) A goggle type display provided with two display devices as claimed in claim 41.
51. (Currently Amended) A display device comprising:
- a pixel region with a plurality of pixel TFTs arranged in matrix;
 - at least one source driver and at least one gate driver for driving said pixel region; and
 - a circuit for converting m bit digital video data ~~inputted from the external~~ into n bit digital video data for gradation voltage, and for supplying said source driver with said n bit digital video data (m and n are both positive integers equal to or larger than 2, $m > n$),
- wherein said source driver has a D/A converter circuit for converting said n bit digital video data into analog gradation voltage, and
- wherein one frame of image consists of $2^m - 2^n$ sub-frames to perform time gradation display, thereby obtaining $(2^m - (2^m - 2^n - 1))$ patterns of gradation display.

52. (Original) A device according to claim 51, wherein said m is 8 and said n is 2.
53. (Original) A device according to claim 51, wherein said m is 12 and said n is 4.
54. (Original) A device according to claim 51, wherein said display device is a liquid crystal display device.
55. (Original) A device according to claim 54, wherein a thresholdless anti-ferroelectric mixed liquid crystal is used for said liquid crystal display device.
56. (Original) A device according to claim 51, wherein said display device is an electroluminescence display device.
57. (Original) A rear projector provided with three display devices as claimed in claim 51.
58. (Original) A front projector provided with three display devices as claimed in claim 51.
59. (Original) A single panel type rear projector provided with one display device as claimed in claim 51.
60. (Original) A goggle type display provided with two display devices as claimed in claim 51.
61. (Currently Amended) A display device comprising:
- a pixel region with a plurality of pixel TFTs arranged in matrix;
 - at least one source driver and at least one gate driver for driving said pixel region;
 - a circuit for converting m bit digital video data ~~inputted from the external~~ into n bit digital video data for gradation voltage (m and n are both positive integers equal to or larger than 2, $m > n$);
 - and
 - a D/A converter circuit for converting said n bit digital video data into analog video data to input the converted data to said source driver,
 - wherein one frame of image consists of 2^{m-n} sub-frames to perform time gradation display.
62. (Original) A device according to claim 61, wherein said m is 8 and said n is 2.

63. (Original) A device according to claim 61, wherein said m is 12 and said n is 4.
64. (Original) A device according to claim 61, wherein said display device is a liquid crystal display device.
65. (Original) A device according to claim 64, wherein a thresholdless anti-ferroelectric mixed liquid crystal is used for said liquid crystal display device.
66. (Original) A device according to claim 61, wherein said display device is an electroluminescence display device.
67. (Original) A rear projector provided with three display devices as claimed in claim 61
68. (Original) A front projector provided with three display devices as claimed in claim 61.
69. (Original) A single panel type rear projector provided with one display device as claimed in claim 61.
70. (Original) A goggle type display provided with two display devices as claimed in claim 61.
71. (Currently Amended) A display device comprising:
- a pixel region with a plurality of pixel TFTs arranged in matrix;
 - at least one source driver and at least one gate driver for driving said pixel region;
 - a circuit for converting m bit digital video data ~~inputted from the external~~ into n bit digital video data for gradation voltage (m and n are both positive integers equal to or larger than 2, $m > n$);
 - and
 - a D/A converter circuit for converting said n bit digital video data into analog video data to input the converted data to said source driver,
 - wherein one frame of image consists of 2^{m-n} sub-frames to perform time gradation display, thereby obtaining $(2^m - (2^{m-n} - 1))$ patterns of gradation display.
72. (Original) A device according to claim 71, wherein said m is 8 and said n is 2.

73. (Original) A device according to claim 71, wherein said m is 12 and said n is 4.
74. (Original) A device according to claim 71, wherein said display device is a liquid crystal display device.
75. (Original) A device according to claim 74, wherein a thresholdless anti-ferroelectric mixed liquid crystal is used for said liquid crystal display device.
76. (Original) A device according to claim 71, wherein said display device is an electroluminescence display device.
77. (Original) A rear projector provided with three display devices as claimed in claim 71.
78. (Original) A front projector provided with three display devices as claimed in claim 71.
79. (Original) A single panel type rear projector provided with one display device as claimed in claim 71.
80. (Original) A goggle type display provided with two display devices as claimed in claim 71.